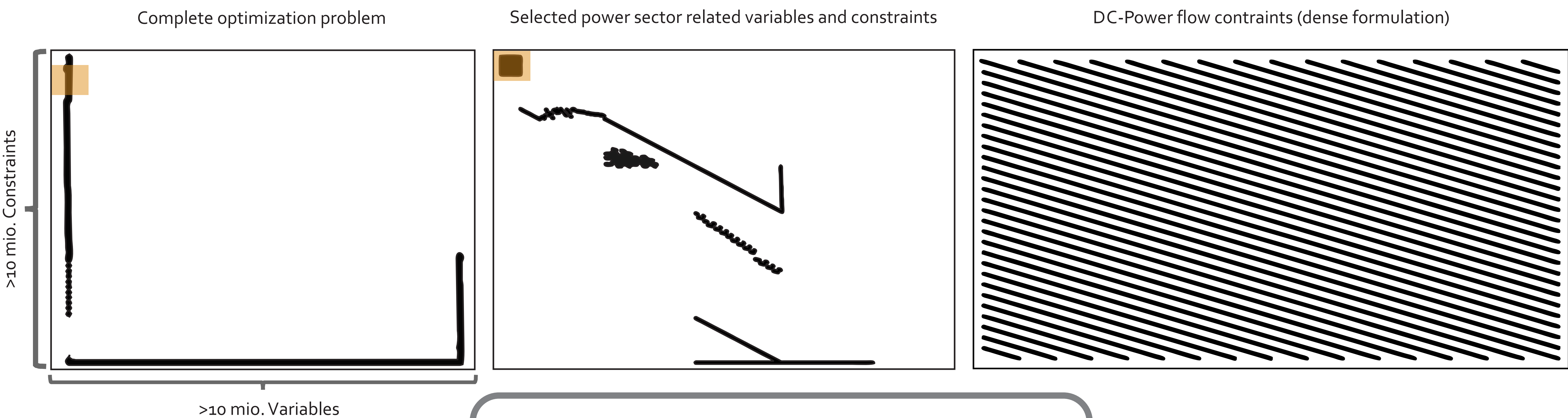
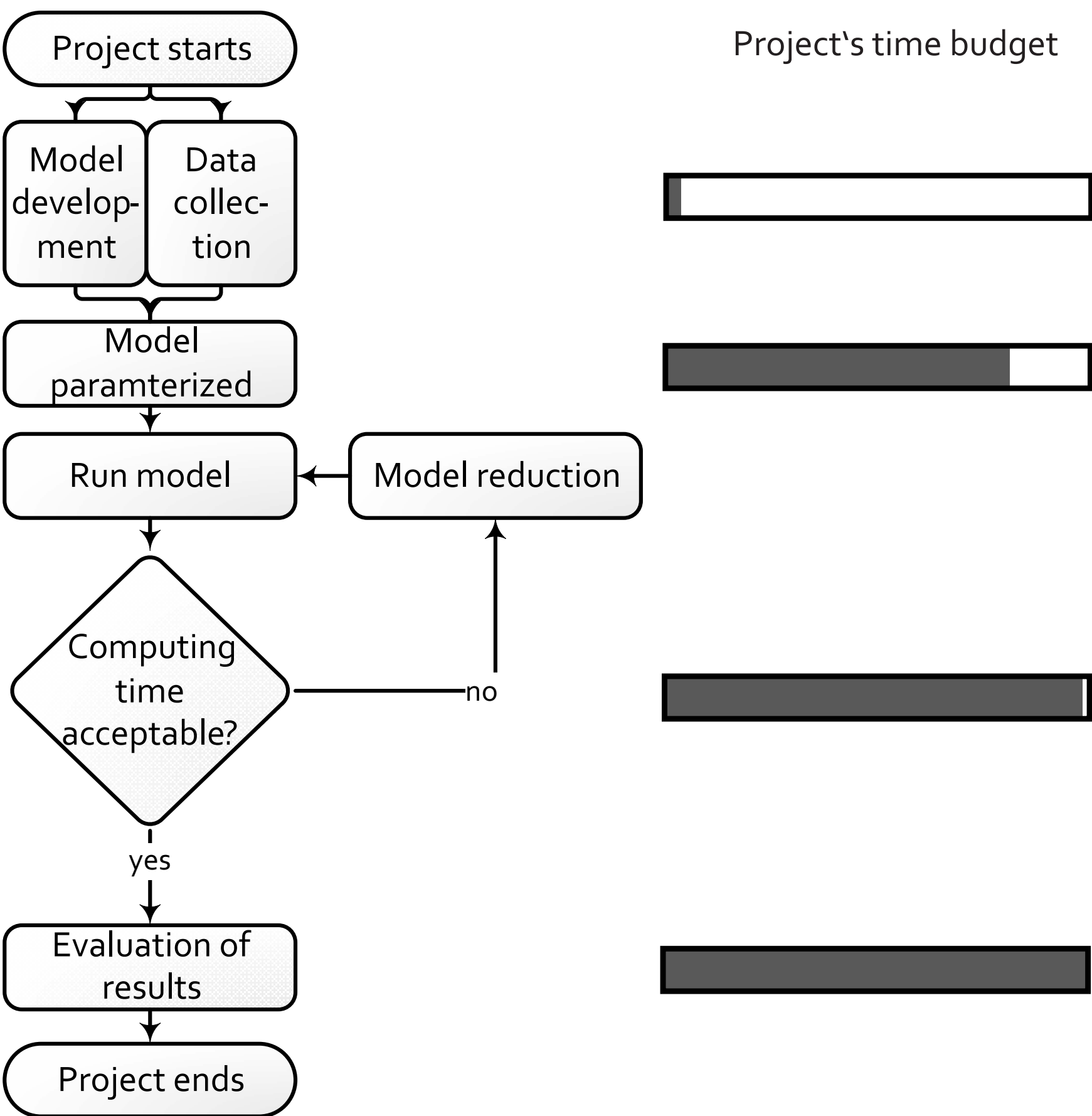


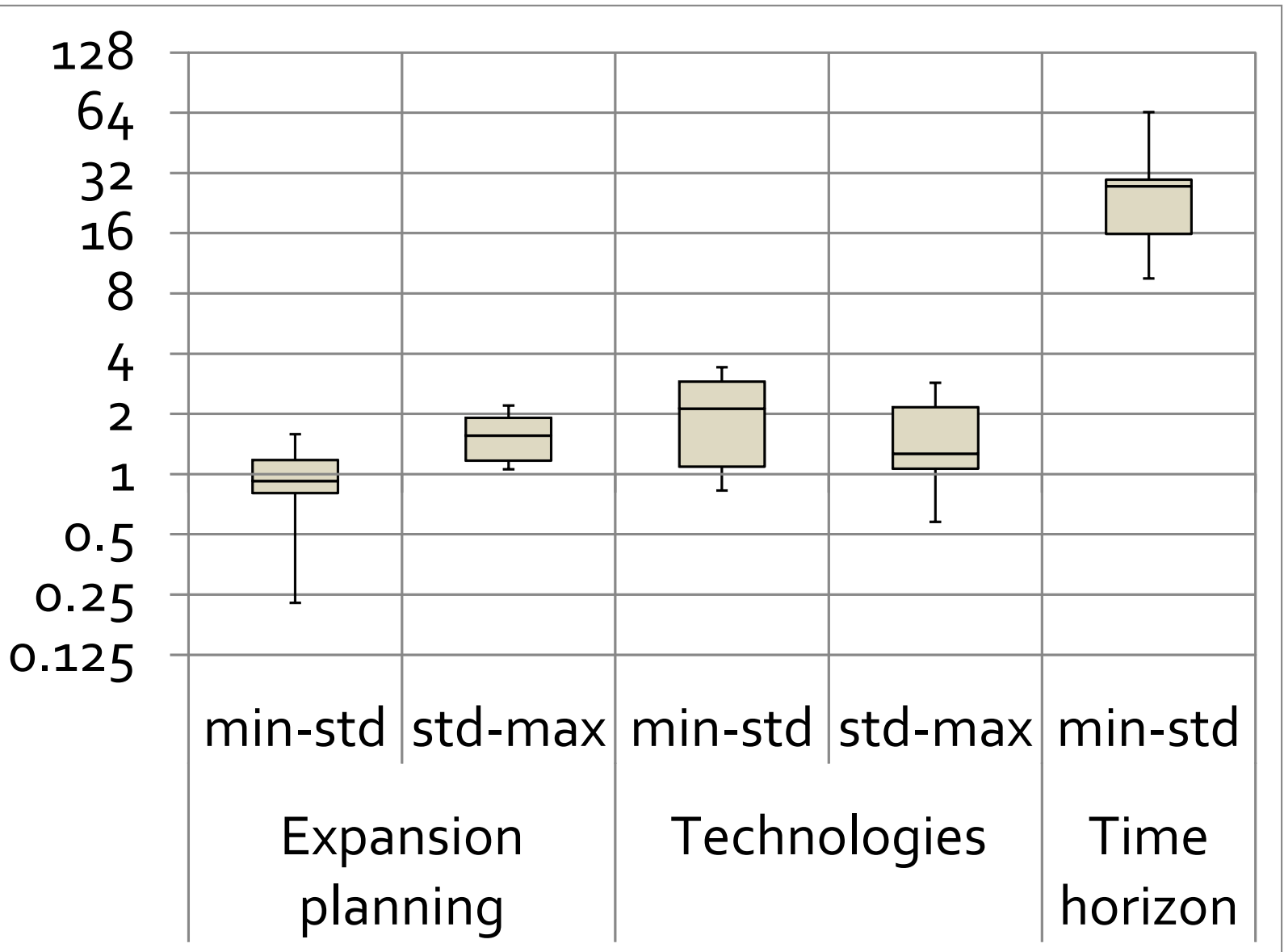
Challenge: Matrix structure of huge optimization models



Motivation: Working with complex models

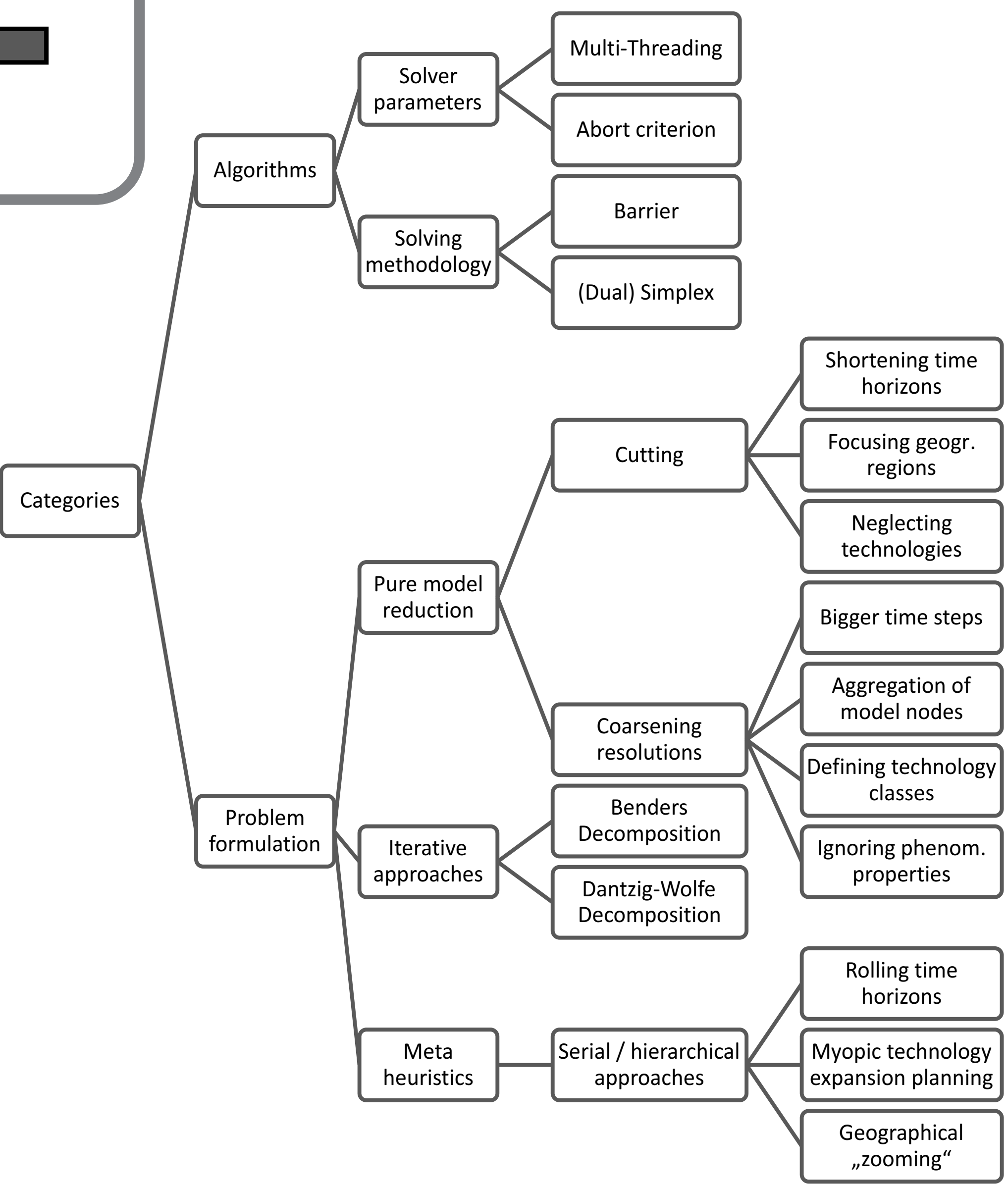


Analysis: Generating instances & benchmarking reduction techniques



Level	Min	Std	Max
Time Steps	4 hours	1 hour	1 hour
Time Horizon	1 day	30 days	365 days
Nodes	6	6	16
Technologies	Fossil & nuclear Renewables Pumped hydro Hydro reservoir DC-load flow	+CHP +Heat storage +Power-to-heat +Electrolyzers +E-Mobility and H2-Mobility	+CHP (detailed) +CSP +Solar heat +DMS
Expansion planning	Gas turbines	Transmission capacities	+Batteries +CHP +Renewables

Review: Speed-up approaches



Conclusions

Simple reduction techniques should aim the time related dimension
Effective parallelization of both algorithms and problem formulations required

